

Figure 1.

The diagram illustrates the HF etching process for creating a macroporous membrane. It shows a cross-section of a glass slide coated with a polymer layer, which is then coated with a solidified SiO_2 colloidal crystal. This assembly is immersed in a 2% HF solution. The HF etches the SiO_2 layer, creating a porous structure. The final product is a macroporous membrane, which is the polymer layer with the etched SiO_2 structure.

Figure 2.

FOOT " 402660

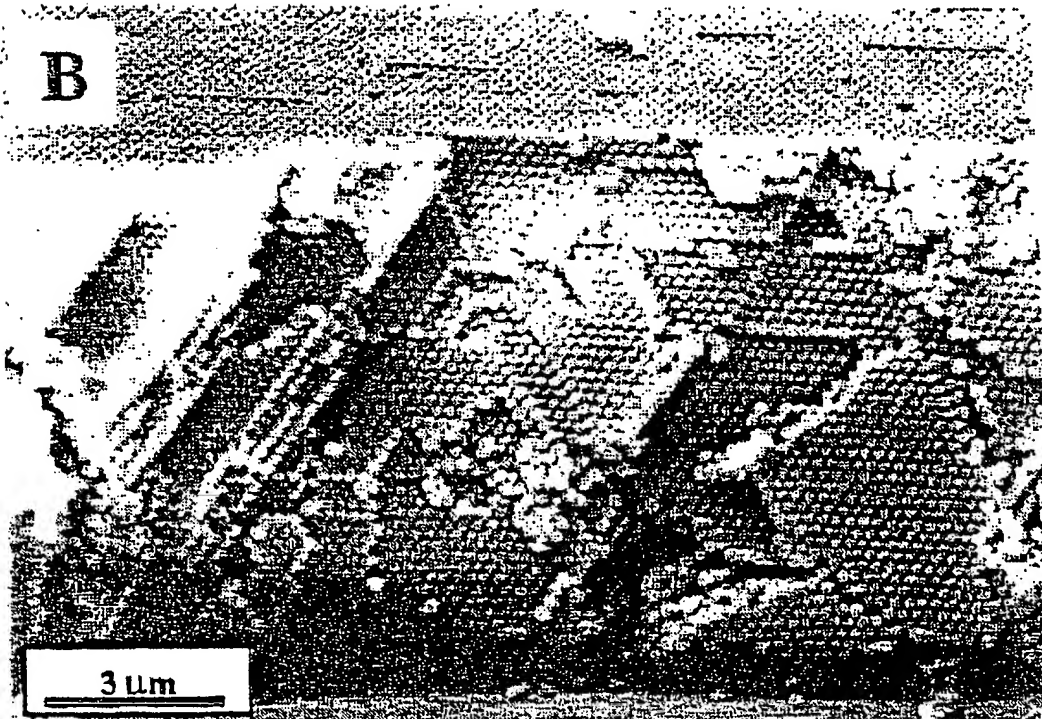
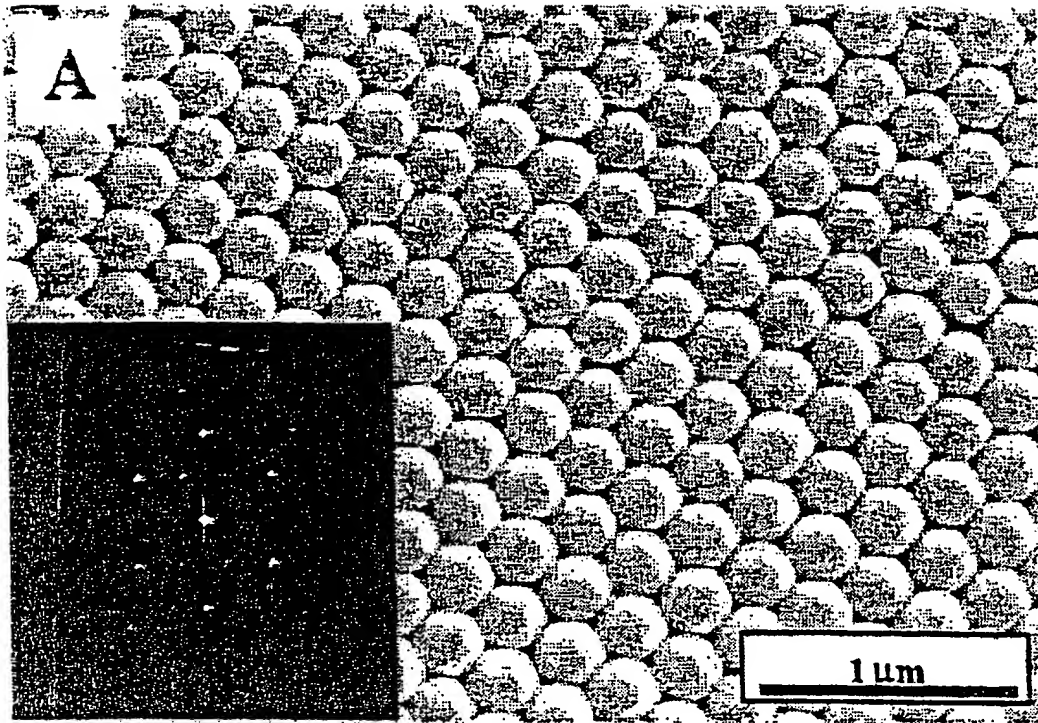


Figure 3.

TECOTTE 18026660

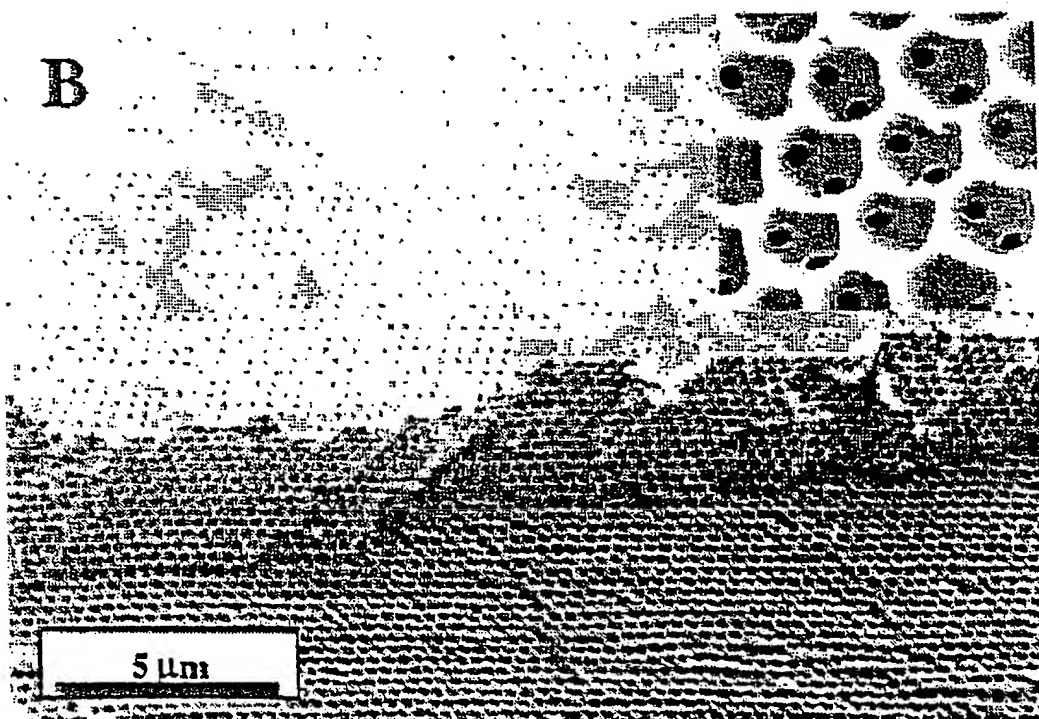
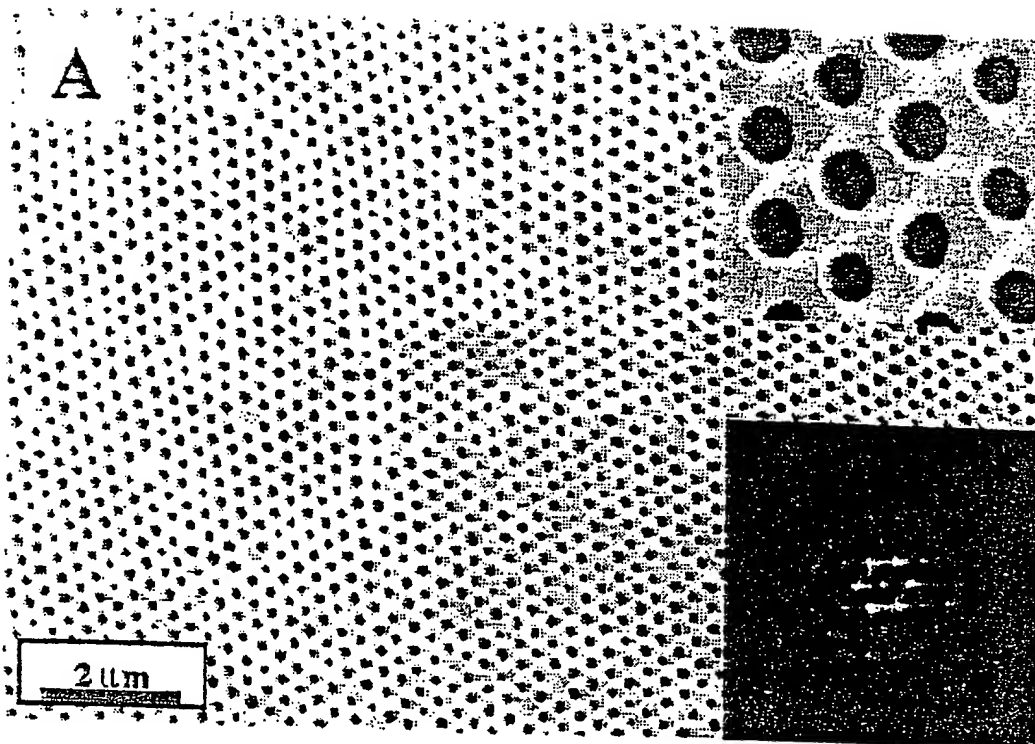


Figure 4

FOOT 1602660

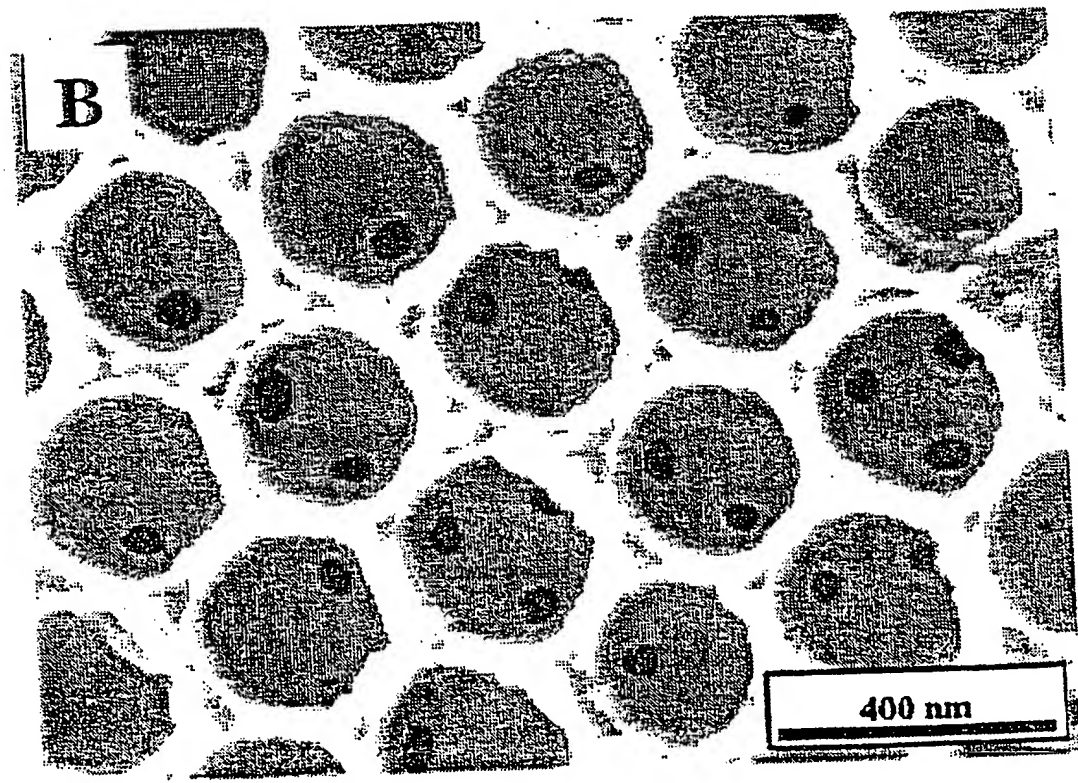
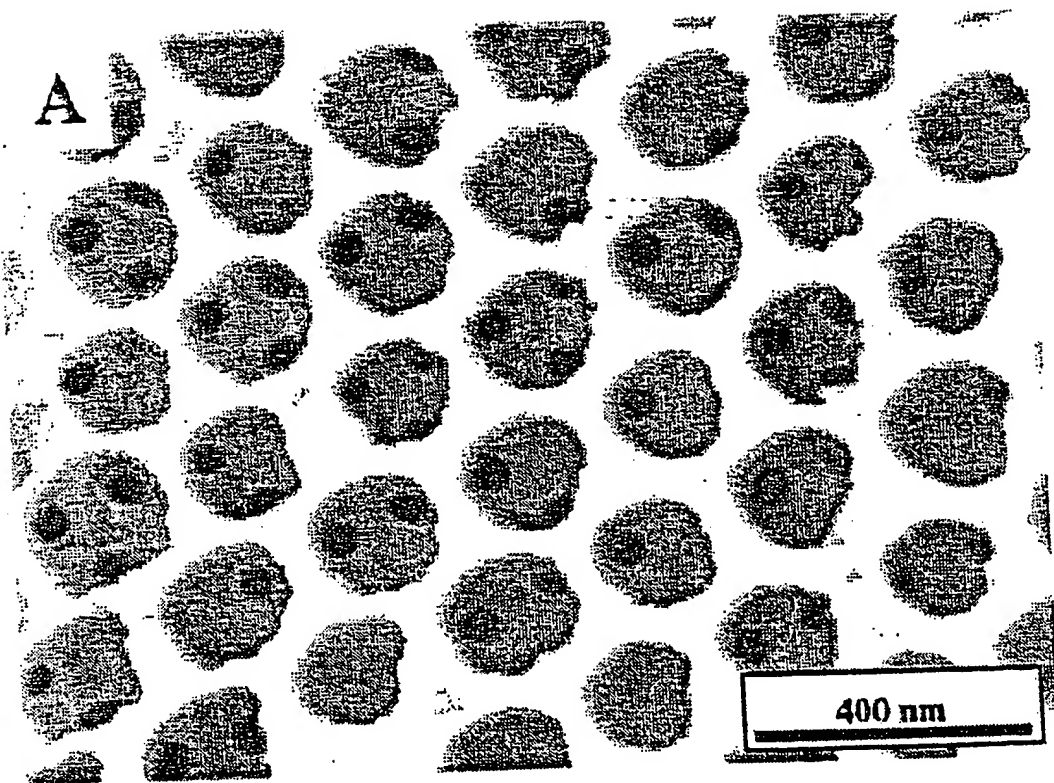


Figure 5.

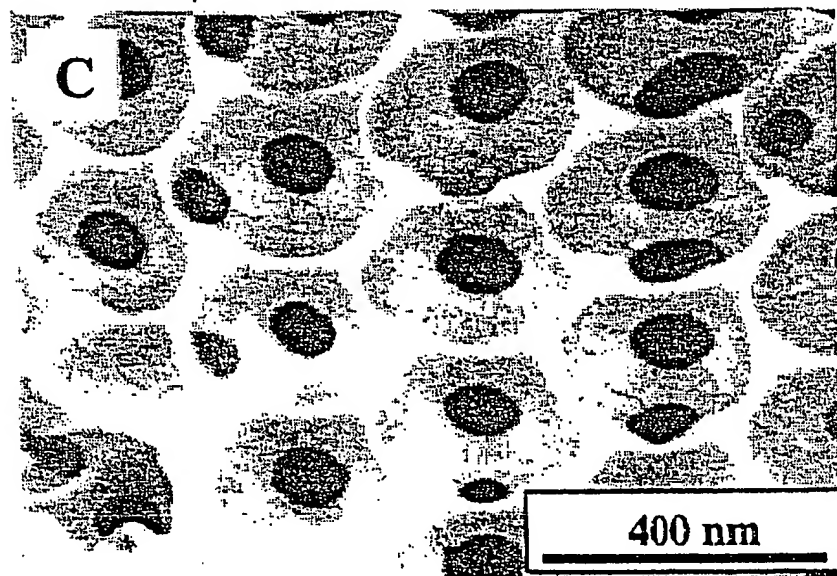
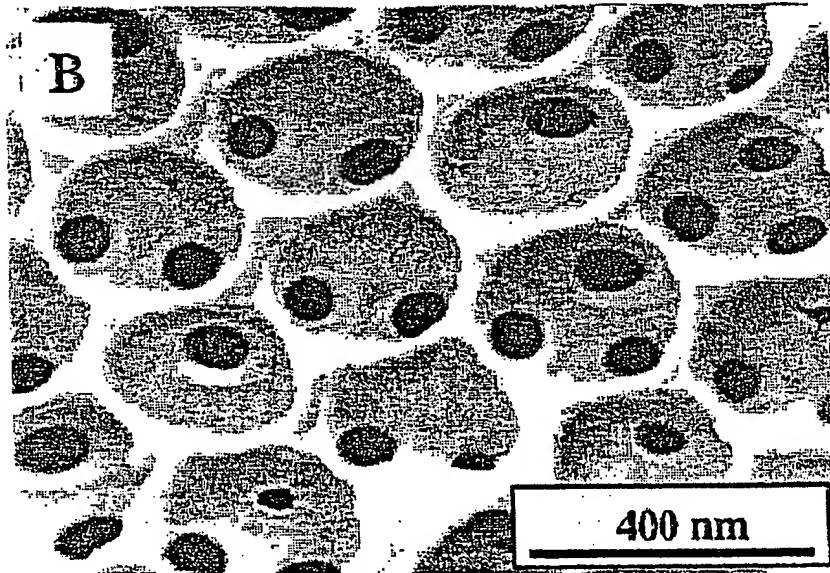
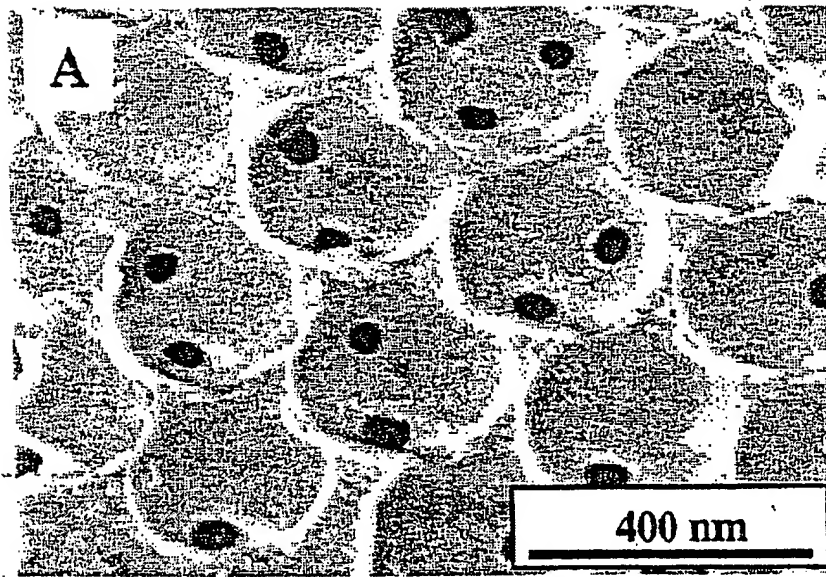


Figure 6.

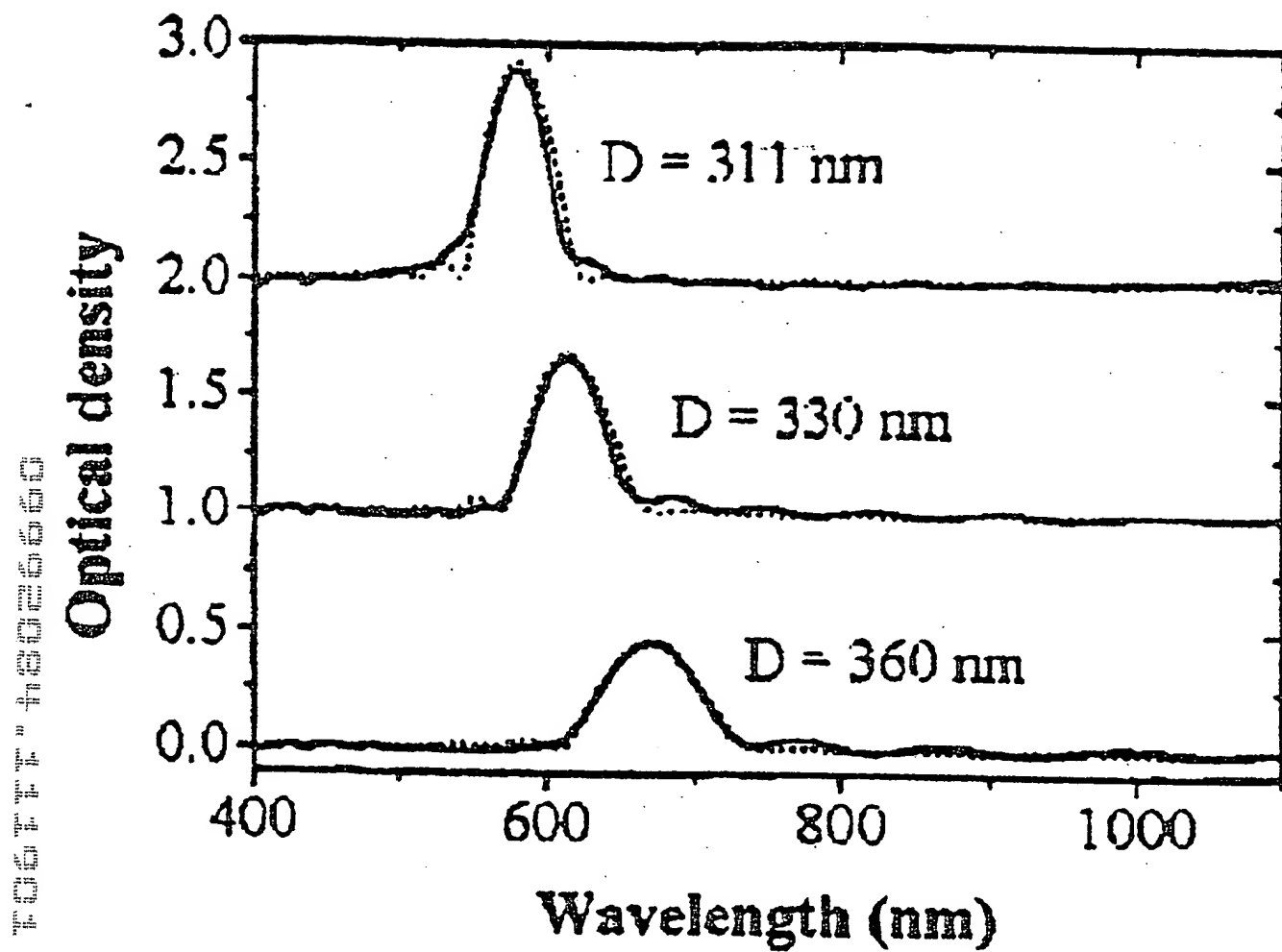


Figure 7.

13022660

Peak wavelength (nm)

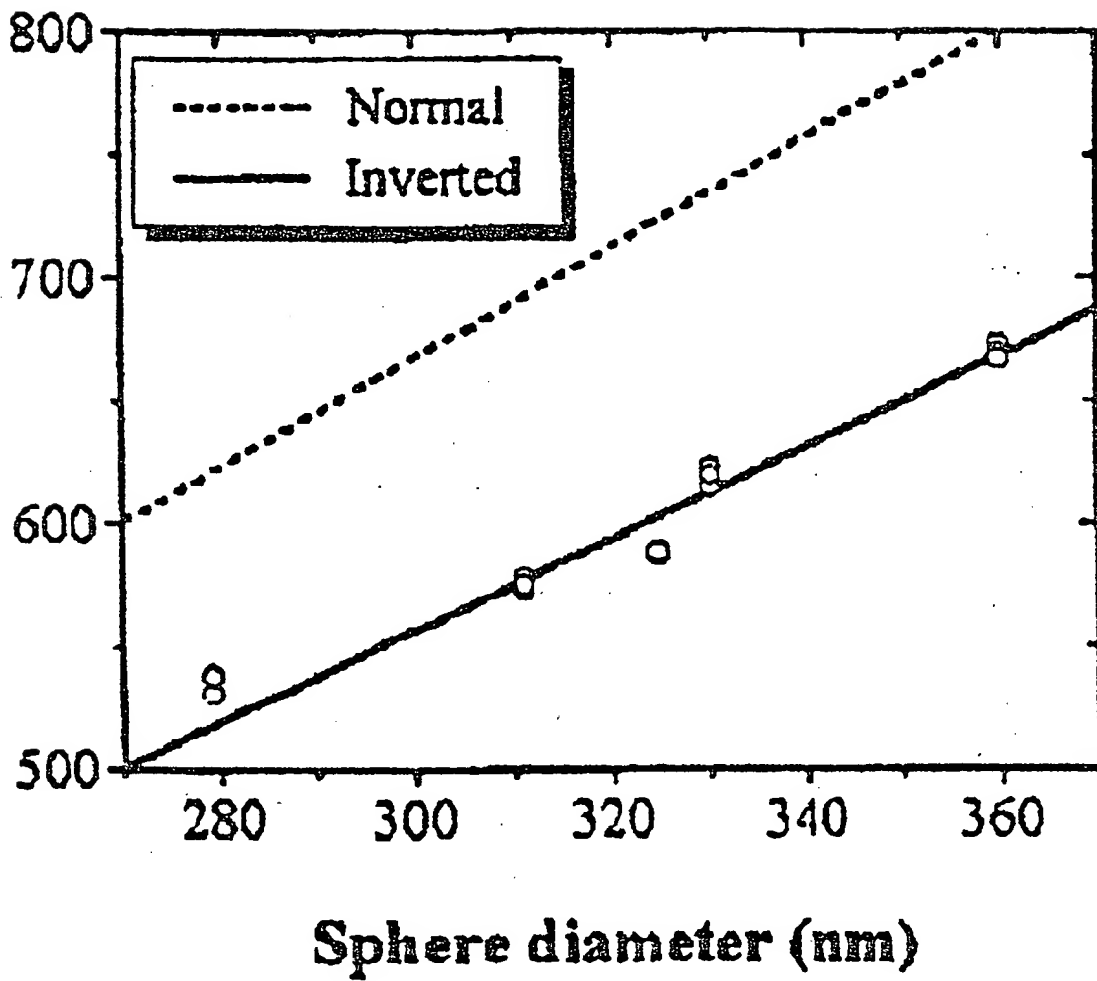


Figure 8.

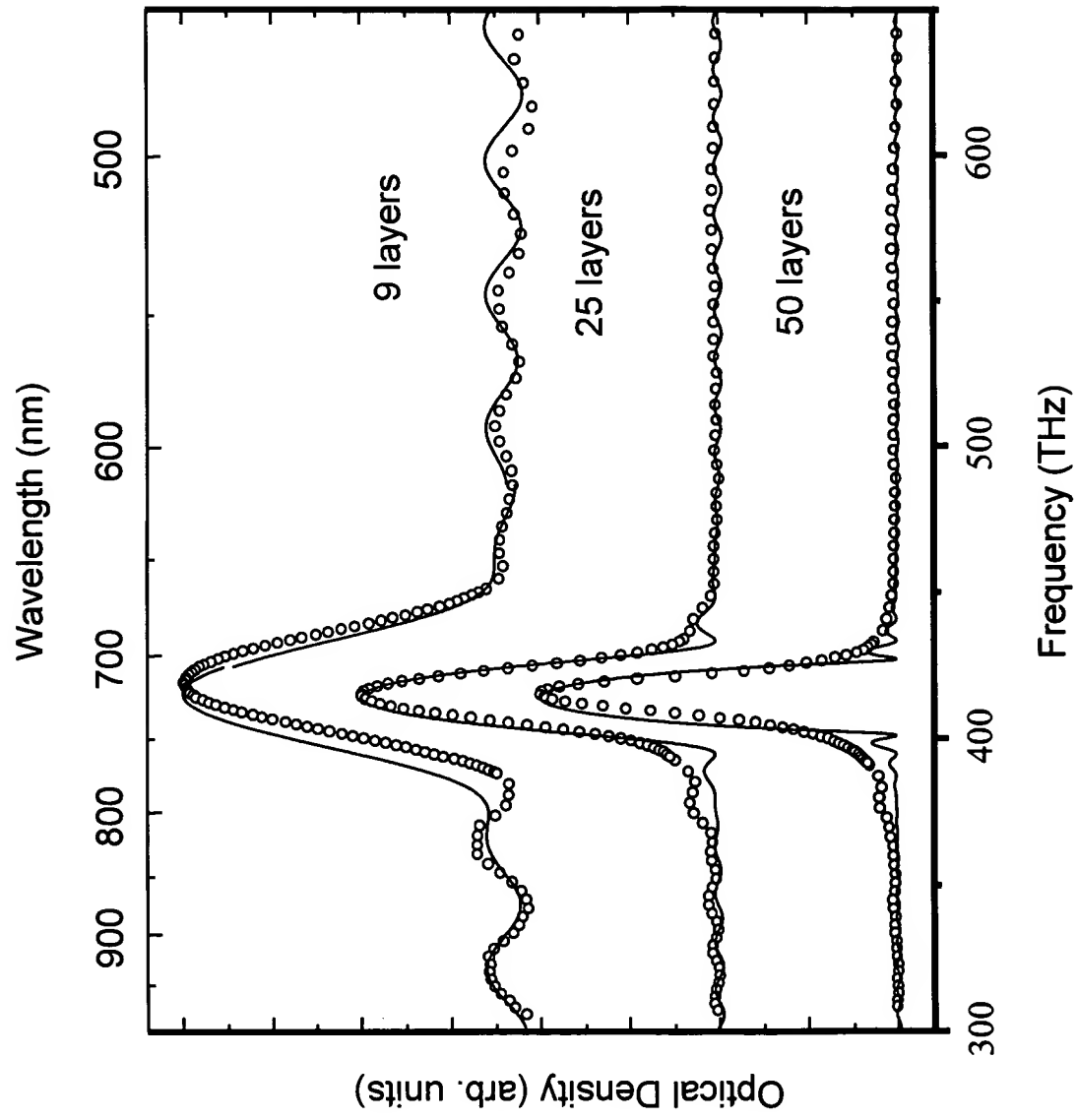


Figure 9

Figure 1 consists of four panels (A, B, C, D) showing TEM images of ZrO₂-coated Al₂O₃ particles. Panel A shows bare Al₂O₃ particles, which are spherical and approximately 100 nm in diameter. Panel B shows ZrO₂-coated particles, which are also spherical and approximately 100 nm in diameter. Panel C shows ZrO₂-coated particles, which are spherical and approximately 100 nm in diameter. An inset in panel C is a graph showing the relationship between shell thickness and particle size. The y-axis is labeled 'Shell thickness (nm)' and ranges from 0 to 10. The x-axis is labeled 'Particle size (nm)' and ranges from 0 to 100. The data points show a linear increase in shell thickness with particle size, starting from approximately 2 nm at 0 nm and reaching approximately 10 nm at 100 nm. Panel D is a high-magnification TEM image showing the core-shell structure of the ZrO₂-coated particles. The core is labeled 'Al₂O₃' and the shell is labeled 'ZrO₂'. The scale bar in panel D is 10 nm.

Figure 10.

TOP LEFT: 13000000

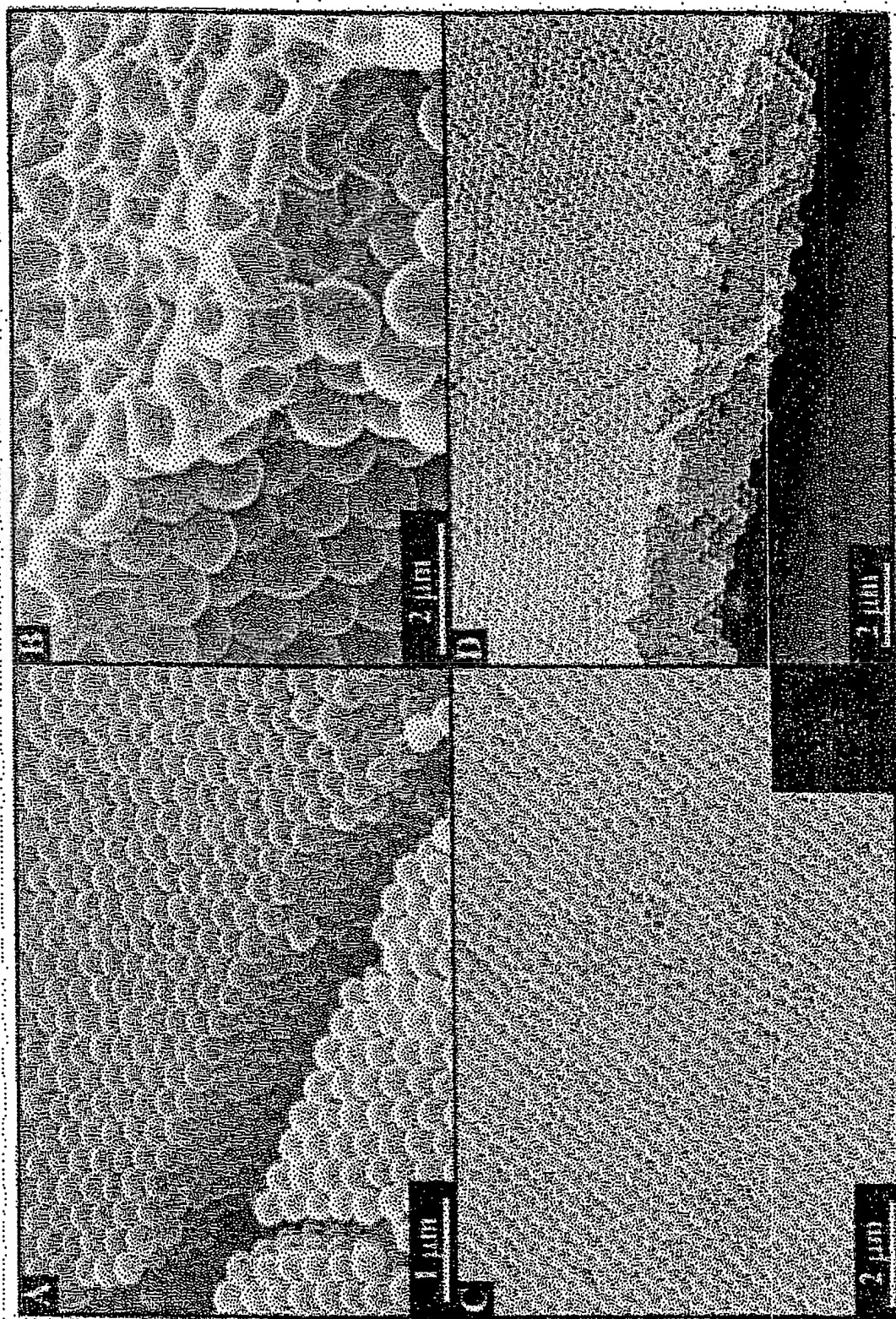


Figure 11.

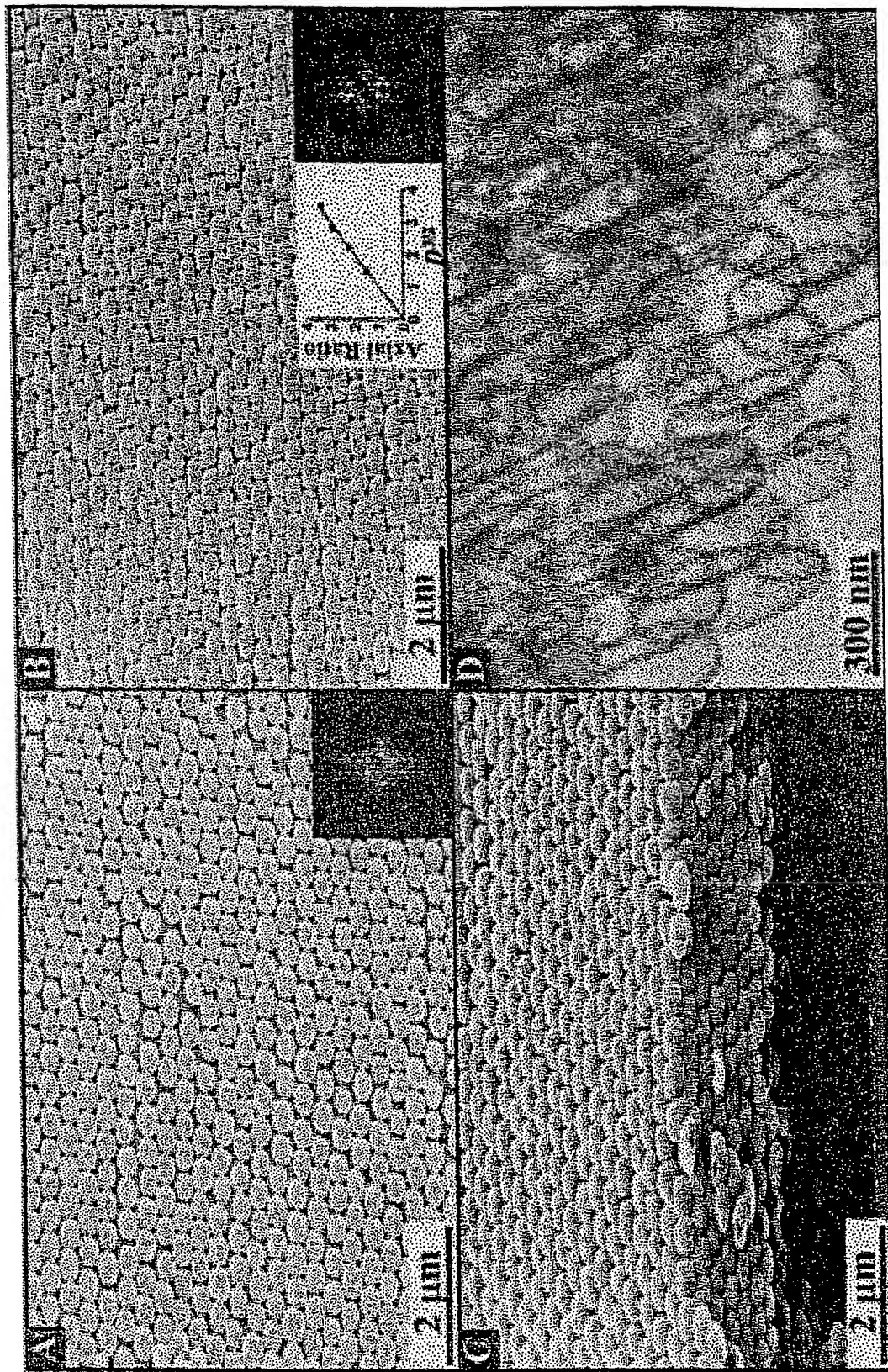


Figure 12.